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Food Price Reporting:
Evaluation and Opportunities for Consumers

by

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As part of my work, I analyze food prices in a detached, scientific manner. This detachment leaves me, however, when I stop by the supermarket on my way home. I am as shocked by and concerned with retail food prices as any other consumer. So I had more than just a professional interest when scientific journals reported on a way that food prices could be held down. The studies reported on systems of publicly identifying the lowest priced stores in an area. The purpose of this article is to summarize the results of these studies and to suggest how local groups can use information programs to reduce their grocery bills.

How Price Reporting Saves Consumer's Dollars

Food shoppers would find it difficult and expensive to identify on their own the lowest priced stores in their area. This would require repeatedly canvassing all stores and comparing prices. Few shoppers are willing to take on this time-consuming chore. Instead, many settle on one or two stores which combine convenience and acceptable prices. Once these choices have been made, shoppers are not likely to be affected by small price changes because the potential savings from shopping at another store are not known immediately.

Changes in prices between stores do not prompt a rapid movement of shoppers from the higher to the lower priced stores. Thus, retailers recognize that shoppers are not acting as if they were price conscious. Discouraged from competing over price, retailers turn to more visible forms of competition. These may involve offering trading stamps, improving service or enlarging the parking lot. The costs for these improvements are often passed along to shoppers as still higher prices. Thus, as a result of poor information on relative store prices, the shoppers lose in two ways. They pay higher prices by not comparing stores and they pay for services they may not have wanted in the first place.

Improved information on relative store prices could change all this. As a result of this information, a shopper may see that another store offers lower prices and may switch to that store. The savings from this switching are the direct benefits of the information program. Higher priced supermarkets could loose a substantial portion of their patrons in this way and would be forced to lower their prices to remain competitive. No store would want to be known as the high priced store in an area. Thus, successive price cutting could lead to a downward spiral which would ultimately stabilize at a lower level. In fact, it is not even necessary for many shoppers to switch stores to bring on a price-cutting war; retailers may cut prices for a time in anticipation of such moves. These general reductions in price levels are the in-direct benefits of price reporting. They are particularly desirable since all area shoppers benefit, not just those who actually switch stores.

Price Reporting Procedures

Price reporting is making publically known prices of selected food items in individual stores. A typical report carried in the newspaper may, for example, identify stores A, B and C as selling lettuce for 33, 40 and 42 cents a head, pricing large eggs at 92, 98 and 92 cents a dozen and, so on.

Individual items are listed to help shoppers identify the lowest priced stores for each of these products. By making this information public, stores are encouraged to compete over the prices for these products. In addition to these prices, an average "market basket" price for each store is published.

The idea of publishing the market basket price is to guide shoppers in the identification of which stores have the lowest overall prices. In many ways this information is the most useful for shoppers. To make these overall prices more meaningful, the individual item prices are adjusted through a process known as weighting.

Weighting accounts for the range in quantities of different products bought. For example, it would be misleading to report an average of the hamburger and salt price for a shopper using three pounds of hamburger a week and 1/4 pound of salt. Rather, the relative amounts of each item purchased should be reflected in the market basket price through the weighting process. The same practice is used by the government in calculating the widely reported Consumer Price Index.

In many cases the market basket is based on about 100 items. Of these, 25 to 50 are reported individually. The remaining items used in the calculation of the market basket price are kept confidential for two reasons. First, the shopper would be overwhelmed if all 100 prices were reported. Too much information can be as bad as too little. Second, retailers are encouraged to cut prices on all items if they want to come out low on the report. If they knew exactly which items were to be reported, however, they could selectively cut prices on only those items. The distinction is important because the reports include only 100 of the more than 10,000 items carried in supermarkets.

Nowhere in this discussion have differences in quality among stores been mentioned. Yet quality and service are clearly important for many shoppers and certainly should be included in any complete information program. Price reporting programs, however, do not strive to be complete in this sense. Instead they provide information on one store characteristic only - price. Shoppers can then combine this with their own knowledge on quality, convenience, friendliness, helpfulness and other factors important to them.

Why have prices been selected for reporting and not some other store characteristic? First, prices are less subjective than quality and convenience and thus more easily used by a variety of shoppers. Second, and equally important, other store characteristics are less variable over time.

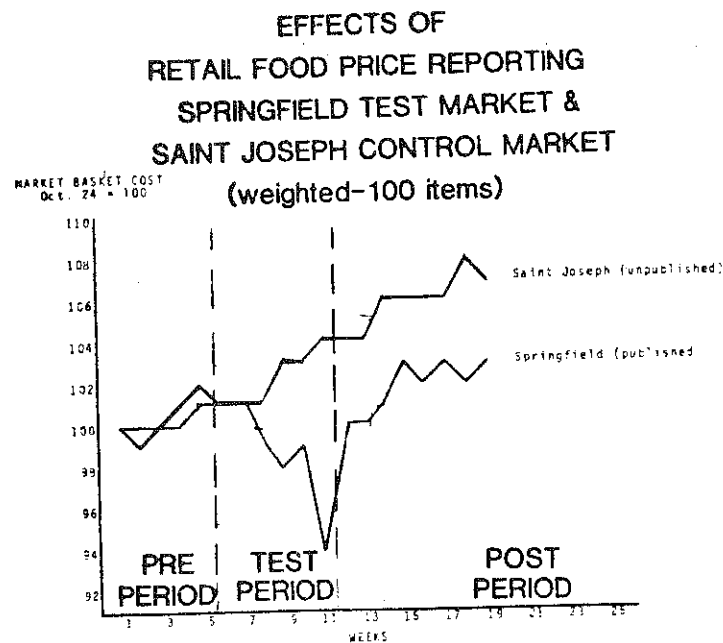
Once a shopper has checked the location of a store or the quality of its meats, she or he can return in a month with a feeling that the situation has not changed dramatically. Prices, on the other hand, change frequently. One Midwestern chain reported changing about 600 prices each week. Reporting price information then is an effort to provide the most useful information for the greatest number of shoppers. No claim should be made that this is the only basis for selecting a store.

Results from Price Reporting

Does food price reporting in practice have the expected effect? The predicted cause and effect is logical enough, but markets sometimes operate with a logic all their own. The results reported here are based on eight systematic studies conducted in the US and Canada from 1974-1980. Numerous other reporting programs have been carried on at the local level and by one commercial firm which uses cable television in several cities. The methods and effects of these reporting programs are, however, poorly documented so they will not be discussed here.

Most of the eight studies divided the test period into three segments: before, during and after price reporting. Prices were collected in all three intervals but were publically reported during only the middle segment. Changes in price relationships which occurred during price reporting and which do not match the before and after segments were attributed to price reporting. The diagram below shows actual market baskets for 100 items in Springfield and St. Joseph (Missouri). The prices in Springfield were unchanged from the second week of price reporting to two weeks following its termination and then rose again. Thus there is no decline attributable to price reporting. These start and finish dates for the measurement were picked because retailers

did not know when reporting would begin or end so their response lagged behind by at least two weeks.



Source: Uhl, Boynton and Blake

To be sure, this price pattern could have been entirely coincidental to the reporting program. Perhaps fresh vegetables suddenly came in and went out of season and drove the price down. While this seems unlikely, it must be considered. One way of accounting for such extraneous effects is to use a "control". The use of controls, a standard practice in plant and medical research, assumes that the control and the test areas differ only in the factors under study. In this case, that factor is food price reporting.

The St. Joseph line (the control city) in the figure shows price behavior for the same items but where prices were not reported. From two weeks after the beginning of price reporting to two weeks following its termination the St. Joseph market basket price rose by 5 percent. Since the Springfield price remained unchanged the total effect ascribed to price reporting is the sum of zero plus 5, or 5 percent. For the eight experiments

the reported price declines ranged from zero to over seven percent. The individual results are shown below.

Market Basket Price Declines Attributed to Public Food
Price Reporting

Area	Date	Reported Decline in Percent
Ottawa	1974	7.1
Saskatoon	1975	.5 - .7
Regina	1975	1.6 - 2.1
Bloomington	1971-80	2+
Springfield (MO)	1979-80	5
Des Moines	1979-80	0
South Bend	1979-80	0
Erie	1979-80	2

Sources: See references.

From this table it can be seen that price declines of greater than two percent should not be expected. Yet if these savings extended across the country the total savings would be considerable. Two percent of total US retail food sales in 1979 was \$16 billion. However, for the individual family the weekly savings could seem insignificant. For the family of four spending \$80 weekly at the supermarket, a two percent price decline would amount to about \$1.50.

There is some question about how long stores would or could sustain a a two percent price reduction. Supermarkets report average net profits of one percent of sales. A two percent decline would then be sufficient to cause losses. In areas where a few stores dominate the market, however, prices and profits are notably higher. Thus for these areas price reductions could probably be maintained over a longer period. However, there is

a possibility that over time stores could realize that not competing over the reported prices was a better tactic. As a result prices could be uninfluenced by price reporting or could even rise as a result of it.

The reported savings, however, refer only to general price declines, the indirect effects. They ignore completely the savings of shoppers who actually shift stores in response to better comparative price information, the direct effects. If these savings were included the total savings for consumers, as a result of price reporting, would be greater.

In summary, a public price-reporting effort should on average cause no more than a two percent decline in the market basket price in the short term. In individual cases, the actual effects could be either greater or smaller than this. The long-term effects are less well known. Moreover, any actual shift of shoppers from higher to lower priced stores would increase total gross savings.

Local Price Reporting: Getting Started

Groups reporting prices at the local level face significant practical problems. The programs require selection of a basket of items which accurately reflects what many shoppers in the area actually buy. If this basket contains too few items it may not be representative. Yet too large a number increases the data handling chore of the group. A survey of 100 items for six stores means that 600 prices must be collected, transcribed and "weighed" to prepare a market basket price. Errors in this process can lead to incorrect information which negates the value of the report for shoppers and is unfair to retailers. Moreover, the legal aspects of reporting incorrect prices are as yet unresolved.

Once the price collection system has been organized, a means of spreading the information must be found. To reach enough people to influence

overall price levels, a public media such as a newspaper may have to be used. Unfortunately, finding newspapers willing to print the prices over a long time has proved difficult. A likely reason is the importance of supermarket advertising for local newspapers. In college towns, student newspapers may be a workable choice. Leafletting or distributing mimeographed sheets may also be effective.

And, even if the information is circulated, there is no guarantee that a sufficient number of shoppers will act on it to cause much effect on price levels. For example, for several of the reported studies, an average of only 38 percent of area shoppers were aware of the information. Moreover, most ranked its value below that of the store ads. Under these circumstances, it is not surprising that only a few shoppers actually switched stores in response to the information. To date, it has not been possible to determine how large a switch is needed to change store pricing behavior.

Local groups may wish rather to concentrate their efforts on members of the group. This would have several advantages. Information could be distributed directly. Members know how likely they are to use the information so time and money are not spent getting it to people who are not interested. If prices are not made public, the legal responsibility of the reporters for errors may be substantially reduced. This is, however, a judgment only and not a legal interpretation.

For smaller groups the number of shoppers contacted is unlikely to be large enough to cause general changes in price levels. The group's returns will all be due to helping members identify and shift to the lower priced stores. These are the direct benefits. Thus the discussion above about the indirect effects is not relevant. Fortunately there is a relatively easy method a group may use to determine the need for information by its

members and the expected savings from improving information. This method is outlined in the steps below:

1. Develop a market basket and basket weights which are relevant for the group. Include a selection of items normally purchased.
2. Collect prices for the stores at which group members shop and calculate a weighted market basket price for each store.
3. Ask each member which store(s) in his/her opinion are the lower priced ones in the area. Those who correctly identify the low priced stores as determined under (2) above are classified as informed; those who identify the stores incorrectly are uninformed.

If a sufficient number of group members are uninformed there may be value in a price-reporting program. This analysis can be done several times to see if the informational problem by group members is a persistent one. The cost of poor information can be estimated by:

4. Calculating the spread between the lowest priced store and the others according to the following table:

Market Basket Price in Store Column A	Market Basket Price in Lowest Priced Store(s)* Column B	Price Spread Col. A Minus Col. B
A	"	
B	"	
C	"	
D	"	
E	"	
F	"	
Lowest Priced	"	0

*If more than one store is at or very near the bottom use the average of them for the lowest price.

5. Total loss to group members is then the number shopping at store A times the spread for A plus the number shopping at B times spread for B, and so forth through the total number of stores.

This procedure will lead to an estimate of the total losses to the group but will overestimate savings for price reporting. This happens because not all

members are likely to switch to the lower priced stores. Savings can be approximated by asking who would change stores and repeating step 5 using only that number. If price relationships among stores are fairly constant, it may not be necessary to report information to members very frequently. Monitoring (weekly or bimonthly) is, however, still necessary.

A procedure similar to this was applied to Ithaca, New York, and led to a calculated average weekly savings per family of 45 cents, or nearly \$2,500 each year for a 100-member group. Thus price reporting within groups has the potential for significant savings with only a fraction of the problems of a public reporting program.

Price reporting programs can lead to savings for consumers who use them. Moreover, if the information is made available to the general public and a significant number actually switch stores, area grocery prices in general may decline.

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